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REMARKS

Reconsideration of the above-identified application is respectfully requested.

In the Official Action dated March 29, 2004, the Examiner rejected Claims 1-18 under 35 U.S.C. 112, second paragraph, as indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Particularly, the Examiner alleged that in Claims 1 and 10, it was not clear whether the partial transport stream comprises the removed or remaining data after the removal and further, that the term "said flag" lacks antecedent basis (in Claim 1).

Moreover, the Examiner rejected Claims 1, 2, 9-11 and 18 under 35 U.S.C. 103(a) as allegedly unpatentable over U.S. Patent No. 6,351,474 to Robinett et al. ("Robinett") but did indicate that Claims 3-8 and 12-17 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As a preliminary matter, applicants take this opportunity to amend the specification at pages 2, 7, 9 and 10 to update the status of the described co-pending patent applications.

With respect to the 35 U.S.C. 112, second paragraph, rejections of Claims 1-18 as being allegedly indefinite, applicants have amended independent Claims 1 and 10 to set forth that the partial transport stream comprises packets of interest after a filter device (i.e., PID filter) has removed predetermined packets. That is, the partial transport stream input to the real-time data remultiplexing system of the invention comprises remaining data after packets have been filtered.

Further, Claim 1, line 12 has been amended to set forth that the multiplexor device is responsive to the signal (rather than the "flag") that has been previously generated when a gap has been detected in the partial transport stream. Proper antecedent basis has been provided for the term signal in the claimed detecting mechanism.

Respectfully, the amendments to each of independent Claims 1 and 10 now render these claims clear and definite with care taken to ensure that no new matter has been entered. Applicants' thus respectfully request that the Examiner withdraw the rejection of independent Claims 1 and 10 under 35 U.S.C. 112, second paragraph.

With respect to the rejection of claims 1, 2, 9-11 and 18 as being unpatentable in view of Robinett, applicants respectfully disagree.

Robinett, though directed to similar technology, is very different from the present invention in that it deals with asynchronous communications. For example, shown in Figure 2 of Robinett, a transport stream is entering into and exiting from the data link control block 112, although in a real time basis. However, when Robinett receives the streams, it sends it to a descriptor to tag information for placing the data stream into a queue. Then, Robinett places the data in memory 120 via the DMA control in block 116 shown in Figure 2 of Robinett, so that the packets may be operated on before sending them out again on a real-time basis. Further, Robinett includes asynchronous and synchronous interfaces 140, 150 (Figure 2 of Robinett), so that the data may be sent out further in an asynchronous mode, or sent out synchronous mode (e.g., using time stamps to line packets in proper time sequence). Thus, the primary difference over the present invention is that Robinett does not handle packet reinsertion "on the fly" as in the present invention- rather, packets are received, e.g., via a synchronous interface, and then buffered, i.e., stored in memory, so that they could be operated on.

The present invention as claimed in Claim 1 and 10 have been amended to further set forth the limitation that the presence of gaps are detected synchronously in real time, and that the packets to be remultiplexed are synchronously pulled in real time, and inserted into the gaps remaining in the partial transport stream as the stream is being transported on a real-time basis.

Respectfully, while the Robinett does talk about inserting null packets, e.g., to round out the bandwidth of a transport stream, the Robinett reference does speak to remultiplexing meaningful data into the locations where null packets have been incorporated into the stream. The Examiner alleges in page 3 of the Office Action that Robinett teaches a real-time remultiplexing system having a mechanism for directly retrieving packet data having new content from a memory storage device which is queued for storage prior to inserting the new content into the partial transport stream as the transport stream is being transported on a real-time basis.

Respectfully, the Examiner's understanding is misplaced. Robinett does not teach a real-time data remuxing system as Robinett first buffers the transport stream into memory, operates on the data, and then sends it back out using time stamps to re-sync it for output.

This is clearly evident from Robinett's abstract where the sentence starting "A descriptor and transport caching technique is used...." which further supports the position that Robinette buffers the transport stream and then uses time stamps to re-synchronize it. Further support for this critical difference is described in Robinett at col. 5, lines 25-28 and col. 5, line 66 thru col. 6 line 4.

Respectfully, this is not the same as the present invention where only new data content (e.g., packets) is stored in a staging buffer (memory), and only a pulled packet is inserted from a staging buffer to the partial stream as the partial transport stream is being transported on a real-time basis as set forth in Claim 1 and now in amended Claim 10. Thus, the Examiner has not taken into account that the transport stream has been buffered (stored) in Robinett for processing, while in the present invention, the partial transport stream the gaps are being made "on the fly" and asynchronous data is being inserted into the gaps on a real time basis. Robinett simply does not insert data into the gaps detected synchronously in real time in the transport

stream as the partial transport stream is being transported on a real-time basis. In the passage in Robinett cited by the Examiner at col. 41, lines 10-16, a processor in Robinett's system assembles the transport stream by pulling multiple queues into a single transmit queue transports that is to be output. It is respectfully submitted that this is accomplished in memory. During this process, the processor in Robinett examines the transmit queue (descriptors), and assigns a priority, e.g., audio and video data may be given a higher priority preference. Then, a time stamp scheduling mechanism is implemented so the transport stream is scheduled for output. Robinett's internal handling of the data in memory is thus not "real-time" and packets are not inserted into the transport stream as the transport stream is being transported on a real-time basis as set forth in amended Claims 1 and 10. This difference is further supported in Robinett, e.g., at col. 7, lines 36-49.

While Robinett has alluded to a "real time" nature of remultiplexed transport stream at col. 5, lines 61-65 and col. 29, lines 30-49, applicants are of the understanding that this is directed to the use of time stamps that are used to monitor the input rate and control the output rate so that the output is continuous (see col. 7, 16-35). Respectfully, use of the term "real-time" in Robinette is confusing...they mix it with phrases such as 'dynamic' and 'on-the-fly' which implies changes as data goes by -but Robinett does not indicate that this is performed without buffering (see col. 29, lines 30-49).

Moreover, the present invention further distinguishes over Robinett, in that, as the Examiner correctly concedes, Robinett does not have the signaling mechanism for detecting gaps in the partial transport stream as in the present invention set forth in Claims 1 and 10. This is because Robinett is performing such replacement of packets via software, i.e., memory. Thus, the generation of a signal to detect presence of gaps in the transport stream is unnecessary in

Robinett. Thus, applicants disagree that it would be obvious to provide such a gap detecting mechanism, in that it would not be required in Robinett due to the non-real time nature of the null packet detection, i.e., the asynchronous software processing in Robinett's memory.

In sum, the Robinett transport stream does not become a "real-time" stream with remultiplexing performed to the packet stream as the packet stream is being transported on a real-time basis. Consequently, the Examiner is respectfully requested to withdraw the rejections of all Claims 1-18.

In view of the foregoing remarks herein, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance be issued. If the Examiner believes that a telephone conference with the Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned, Applicants' attorney, at the following telephone number: (516) 742-4343.

Respectfully submitted,



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